

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 60204898  
PUBLICATION DATE : 16-10-85

APPLICATION DATE : 29-03-84  
APPLICATION NUMBER : 59062627

APPLICANT : NITTO ELECTRIC IND CO LTD;

INVENTOR : SASAKI MITSURU;

INT.CL. : C25D 13/24 B01D 13/00

TITLE : METHOD FOR RECOVERING FILTERING PERFORMANCE OF ULTRAFILTER  
MEMBRANE IN ELECTRODEPOSITION PAINTING LINE

3STRACT : PURPOSE: To recover remarkably the filtering characteristic of an ultrafilter membrane in an electrodeposition line by washing said film by a washing liquid consisting essentially of an ord. acid, when the filtering performance of said membrane decreases, then washing the membrane with a dilute soln. of an inorg. acid or inorg. base.

CONSTITUTION: Iron or steel parts are pretreated by a phosphate soln. to form a phosphate film thereon and are then subjected to electrodeposition painting, washing and electrodeposition painting using an electrodeposition paint. Since the electrodeposition paint is filtered by an ultrafilter membrane and is used for electrodeposition painting in this case, the filtering performance of the ultrafilter membrane decreases increasingly. Such filter membrane is first washed by a liquid contg. an org. acid such as acetic acid, formic acid, lactic acid, glycolic acid, malic acid or the like in 0.1~20% concn. in order to recover the filtering performance of said membrane. The membrane is then washed for 30min~24hr with 0.05~0.2N soln. of an inorg. acid such as hydrochloric acid, nitric acid or the like or an inorg. base such as caustic soda, ammonia or the like and is further washed with pure water, by which the filtering function of the ultrafilter membrane is recovered.

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PUBLICATION NUMBER : 55073896  
PUBLICATION DATE : 03-06-80

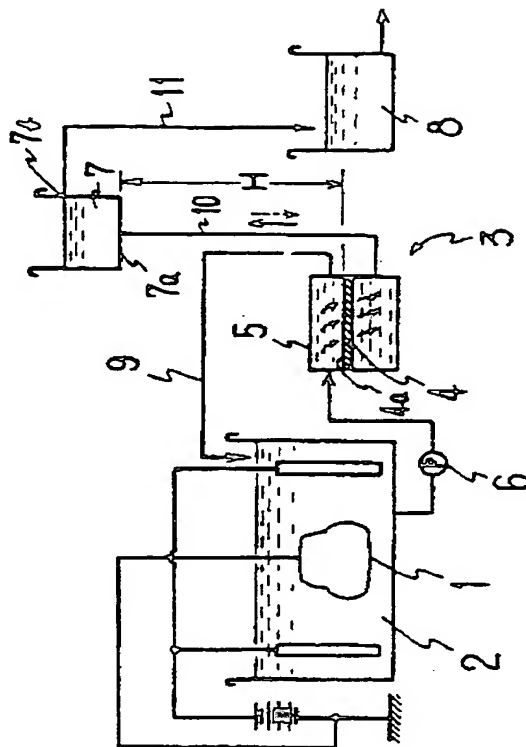
APPLICATION DATE : 29-11-78  
APPLICATION NUMBER : 53148138

APPLICANT : MAZDA MOTOR CORP;

INVENTOR : SUMIYOSHI SHIGERU;

INT.CL. : C25D 13/24

TITLE : ULTRAFILTRATION APPARATUS FOR  
ELECTRODEPOSITION COATING



ABSTRACT : PURPOSE: To prevent the sticking of paint etc. for filtration membrane, by providing filtrate storage tank placing bath liquid sent from electrodeposition bath higher position than ultrafilter separating concentrated liquid and filtrate and flowing backward the filtrate in the storage tank passing through the filtration membrane utilizing the head between the tank and filter.

CONSTITUTION: The filter 5 having the ultrafiltration membrane 4, is provided in the ultrafiltration apparatus 3 and bath liquid sent in the filter 5 from the electrodeposition bath 2 through the pump 6, is separated in the filtrate containing solvent etc. permeated the membrane 4 and concentrated liquid containing paint or pigment not permeated the membrane 4. The former is pushed up to the storage tank 7 by the pressure of the pump 6 through the passage 10 and the latter is recovered in the bath 2 by the pump pressure through the circulating passage 9. The filtrate in the tank 7 is flowed backward by the pressure by the head H between the tank 7 and the filter 5 through the passage 10 and the membrane 4 at the time of stopping the pump 6 by a stoppage of electric power etc. Stagnation, sedimentation of concentrated component of paint etc. on the membrane surface 4a, are prevented by the backward flowing filtrate and clogging of the membrane 4 is able to avoid.

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PUBLICATION DATE : 30-09-82

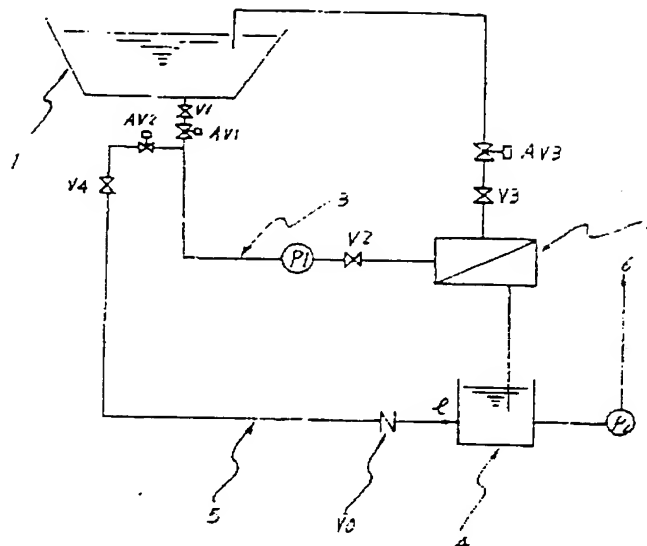
APPLICATION DATE : 26-03-81  
APPLICATION NUMBER : 56044816

APPLICANT : NITTO ELECTRIC IND CO LTD;

INVENTOR : HAYASHI MASAHIKO;

INT.CL. : C25D 13/24 B01D 31/00

TITLE : OPERATING METHOD FOR  
ULTRAFILTRATION SYSTEM IN  
ELECTRODEPOSITION PAINTING



ABSTRACT : PURPOSE: To extend the life of the membrane of an ultrafiltration module and maintain the module at high performance for a long period of time by suspending the paint circulation of returning the paint concd. in the module to an electrodeposition paint tank for a prescribed time and washing the surfaces of the module membrane with the filtrate injected into the module.

CONSTITUTION: The paint in an electrodeposition paint tank 1 is forcibly fed with a pump  $P_1$  to a module 2 through a fully opened circulation piping 3. After it is concd. in the module, it is returned into the tank 1. The filtrate produced by filtration in the module is once stored in a tank 4, from which it is pumped  $P_2$  to a washing line 6. If solenoid valves  $AV_1$ ,  $AV_2$  are closed and opened when stopping the operation of the electrodeposition, the filtrate in the tank 4 is injected with the pump  $P_1$  into the module 2 and the paint therein is forced out into the tank 1. In this case, the gel layers stuck on the surfaces of the module membrane are washed and are forced out into the tank 1. When the washing of the membrane is completed, the inside of the module 2 is completely substituted with the filtrate. The valves  $AV_2$ ,  $AV_3$  are closed, and the membrane is held in a pressure-free state until the electrodeposition operation is resumed.

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